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ABSTRACT

This study examined the effect of gender, personality attributes, and class standing on medical students' attitudes toward medically underserved populations. A total of 102 first-year and 65 second-year students at a medical school in the southeastern United States completed the Medical Students' Attitudes Toward the Underserved (MSATU) questionnaire and the California Psychological Inventory (CPI). It was found that women generally had higher mean scores than men on the MSATU and were more likely to choose to enter a primary care specialty. There were significant correlations between the MSATU total score and CPI internality, communality, femininity-masculinity, and social maturity scales. Overall, mean scores on the MSATU were higher and interest in primary care was greater for first-year students. However, it was found that second-year males were more interested in primary care than first-year males, while second-year females were less interested in primary care than first-year females. (Contains 29 references.) (MDM)

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OBJECTIVES:

The goals of helping professions such as law, medicine, and social work are to educate students to become competent practitioners as well as to adopt the value system of their chosen profession. An important component of this value sytem is an implicit belief in the importance of social responsibility and service to the public. We, as educators within the professions hope this socialization process occurs in conjunction with the changing needs of society.

For example, the medical profession in the United States is being fundamentally transformed by the critical demand for adequately trained physicians who can meet the complex societal needs of diverse populations. This has led to a growing mandate in this country for medical schools to increase the number of graduates going into primary care fields (i.e., family medicine, general internal medicine and pediatrics). At the same time, the last decade has seen an exponential increase in the number of women entering the medical profession. Are medical schools providing the kind of medical education that fosters and nurtures a professionalization process that enables students, both men and women, to become socially responsible physicians who have positive attitudes about their role as change agents in providing better health care to medically underserved populations? How do gender and personality attributes impact

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on the development of medical students as socially responsible physicians?

The objectives of this paper are to (1) examine medical students' attitudes toward medically underserved populations for a cohort of first year compared to a cohort of second year medical students; (2) report on the impact of gender and personality attributes on these attitudes; (3) discuss the implications of these findings in training socially responsible physicians, particularly as they influence the number of medical school graduates choosing to go into primary care fields; and (4) expand the discussion of the implications in reference to education in the professions.

THEORETICAL FRAMEWORK:

There is a large body of literature suggesting that medical students increasingly become more cynical (less idealistic) about their abilities as physicians to address social responsibilities as they progress in their professional training (Becker & Geer, 1958; Bing-You, 1991; Coombs, 1978; Crandall, Volk, & Cacy, 1997; Crandall, Volk, & Loemker, 1993; Gordon & Mensh, 1962; Gray, Moody, & Newman, 1965; Kane & Olsen, 1975; Kopelman, 1983; Leserman, 1978; Leserman, 1980; Miles, 1992; Reinhardt & Gray, 1972; Rezler, 1974; Wolf, Balson, Faucett, & Randall, 1989; Wolf, Randall, Von Almen, & Tynes, 1991). These studies imply that the overwhelming focus in medical education on the biomedical sciences and new technologies for the diagnosis and treatment of diseases allows little time for medical students to develop skills and attitudes that would pre-dispose them to work with medically underserved populations or enter primary care practice.

It appears that medical students are not the only ones who experience a similar

type of "erosion" during professional socialization. Students in law (Granfield, 1994; Stover & Erlanger, 1989), social work (Cryns, 1977; Judah, 1979; Van Soest, 1996; Varley, 1975), and clinical psychology (Cryns, 1977) also lose some of their idealism about social responsibility.

In a longitudinal study of law student socialization, for instance, Stover (1989) learned that the number of individuals who, as first year students, expressed an interest in working in public interest positions declined by 50% by the time of graduation three years later. He explained that "[t]here was a decline in the desire to use one's position as an attorney to help others and to work for social and political change; there was a decline in the expectation that public interest jobs would in fact allow a beginning attorney to accomplish those altruistic goals; and there was a reduced expectation that public interest jobs would enhance long-term career prospects by providing a new attorney with valuable experience, knowledge, and contacts" (p. xix).

Stover (1989, p. xix) further remarked that "an erosion of professional altruism began early," in the first year of law school, as students focused their attention on coping with the rigors of professional schooling. He also found gender differences. After three years of law school, women "were three times more likely than men to prefer public interest practice" (p. xxii).

Similar outcomes are found in the social work literature, particularly with students enrolled in graduate level programs. An alarming trend is apparent. Fewer graduates of social work programs are practicing in positions were the poor and

disenfranchised are being helped (Dattalo & Benda, 1991; Reeser & Epstein, 1987; Reisch & Wenocur, 1986; Rubin & Johnson, 1984; Wyers, 1981).

One must view the outcomes of these professional socialization studies with critical eyes. There are conflicting viewpoints. Not all of the research outcomes lead to the same conclusions, which threatens generalizability of the findings. Because of the variety of study designs, the meaning of the outcomes is hard to interpret. That is, it is difficult to infer cogent conclusions that generally can be applied across professions education, and it is quite unclear how to translate these results to what professionals actually "do" once in practice. However, the research in the professions reviewed seems to lead one to conclude that, in terms of professional socialization, "we must do a better job in clarifying, explicating, communicating, and personifying our professional values" (Judah, 1979, p. 85).

More recent medical student studies have also suggested that there are gender differences in students' attitudes about their social responsibilities as physicians (Crandall et al., 1997; Crandall et al., 1993). Xu and colleagues (1995) (Xu et al., 1995) found that women medical school graduates were more influenced than the men by their clinical experiences with the underserved during medical school, although there were no differences in their reported medical clinical experiences with the underserved. These women physicians were also more likely to see a higher percentage of poor patients in their practice than did the men, reflecting the fact that the women reported more working hours in clinics/health centers where underserved populations tend to be served.

Furthermore, in an Association of American Medical Colleges (AAMC) study of the responses from the 1993 Matriculating Student Questionnaire and the 1994 Medical School Graduation Questionnaire (administered to all entering and graduating U.S. medical students, respectively), women medical students were more concerned than men about issues of health care equity. Women were also more likely to work in clinics serving the indigent and to complete an ambulatory care clerkship. This study concluded that women were more likely than men to exhibit a "social responsibility" ethic (Bickel & Ruffin, 1995).

Finally, Crandall and colleagues (Crandall et al., 1997) have reported gender differences in medical students' attitudes towards underserved populations over their four years of medical school training. Using the Medical Students' Attitudes Toward the Underserved (MSATU) Questionnaire as a primary outcome measure, the study indicated that attitudes for males and females became less favorable over the first year of school, remained fairly stable during the second and third years, and then showed a decline during the fourth year. In addition, although both female and male attitudes declined, female attitudes were more favorable across the four years.

These more positive findings for women with respect to their attitudes toward the medically underserved suggest that women may be less prone to cynicism throughout their medical school training. However, it is not clear what personality attributes or characteristics allow them to do so. In our study, we hope to examine in more depth the factors underlying the development of medical students as socially responsible physicians, and whether we can indeed replicate these gender differences

in our cohort of students.

METHODS:

The underlying assumption of this study is that "there are factors (motivations) associated with the willingness to provide indigent medical care that may have implications for training socially responsible physicians" (Crandall et al, 1993, p.). The MSATU Questionnaire served as our outcome measure. The MSATU is a 57-item, self-report measure of medical students' attitudes and impressions regarding the provision of medical care to the underserved. In addition, we also used the California Psychological Inventory (CPI) as a measure of students' psychological attributes. The CPI is a 462-item measure of personality and seeks to assess normative behavior in a population related to the daily social interactions of "normal individuals". It provides scores on a variety of scales, such as internality, femininity/masculinity, social maturity, etc. (Gough, 1987)

Our sample for this cross-sectional study included entering first year students (Class of 1999) and second year students (Class of 1998) from a Southeastern medical school. The first year students completed the MSATU and the CPI during orientation in August 1995. Also collected was students' level of interest in going into primary care. We had complete data on both measures for n = 102 students (94% of the first year class). The second year students completed the CPI during orientation of their first year in August 1994 and the MSATU during the start of their second year in August 1995. Complete data were obtained on both measures from n = 65 students (60% of the second year class). There were no significant differences

between cohorts (first year vs. second year) in the proportion of male to female students, age or ethnicity. However, the response rate was lower for second year medical students because not all students were in attendance during the administrarion of the MSATU. Analyses revealed no differences between respondents and non-respondents in the second year cohort.

Pearson correlation analyses were conducted to examine relationships among MSATU, CPI and demographic variables. We analyzed differences in the MSATU total score and primary care interest by gender and year in medical school using analyses of covariance (ANCOVA), using CPI scales as covariates.

EVIDENCE/RESULTS:

There were small to modest significant correlations ($p < .05$) between the MSATU total score and a number of the CPI scales. Most notably there were significant correlations between the MSATU total score and CPI internality scale ($r = 0.12$), communality scale ($r = 0.13$), femininity/masculinity scale ($r = 0.22$) and social maturity scale ($r = 0.22$). In addition, there was a modest, statistically significant correlation between primary care interest and the MSATU score ($r = 0.28$), as well as between primary care interest and gender ($r = 0.24$).

Table 1 illustrates descriptive statistics for the MSATU total score and level of primary care interest by year in school and gender. Generally, women had higher mean scores than men on the MSATU and were more likely to choose to enter a primary care specialty (based on a rating scale from 1 = least likely to 5 = most likely). Overall, mean scores on the MSATU were higher and interest in primary care was

greater for first year students.

Insert Table 1 about here

ANCOVA was used in order to control for any potential confounding effects of personality variables on perceptions of providing service to indigent populations and on primary care interest. CPI scales which had significant correlations with the MSATU total score were used as covariates (internality, communality, femininity/masculinity, and social maturity scales). Analyses showed significant main effects by year in school ($F = 10.81$, $p < .001$). First year medical students had significantly higher average MSATU total scores compared to second year students. There was a significant main effect by gender ($F = 17.59$, $p < .0001$). Female students had significantly higher average MSATU total scores compared to males. There was no year by gender interaction. ANCOVA on primary care interest showed significant main effects by gender ($F = 10.80$, $p < .001$). Although females had significantly higher interest in primary care compared to males, it is interesting to note that second year males were **more** interested in primary care than first year males, while second year females were **less** interested than first year females.

DISCUSSION/CONCLUSIONS:

This study supports previous findings indicating that there is a general decline in students' attitudes toward providing care for the medically underserved as they progress through medical school, even when personality attributes are controlled for.

There also appear to be strong gender-associated differences with respect to students' attitudes about serving the medically underserved, not only at entry into medical school but also at the beginning of second year. Again, we noted gender differences in students' primary care interests, suggesting that female students appear to be more inclined towards choosing primary care specialties.

There appears to be a modest positive association between MSATU total score and primary care interest implying that students who have a more positive attitude toward providing service to indigent populations are more likely to be interested in primary care. This tendency appears to be more apparent among female medical students. These findings suggest that women may indeed be more pre-disposed to accepting their "social responsibility" as physicians compared to men, despite general declines between first year and second year of medical school.

This assumption poses an important question: What sustains this tendency throughout the professional socialization process for women? Perhaps it is because our professional educational process does not expect the same level of detachment in women in the same way that we do in men (Hafferty, 1991). Therefore, women are more likely to sustain their interest in working with indigent populations and are subsequently more likely to enter primary care specialties.

EDUCATIONAL IMPORTANCE OF STUDY:

Previous studies reporting differences among male and female medical students' attitudes toward the medically underserved have been faulted for not including potential confounding factors such as psychological attributes. This study indicates

that even when psychological attributes are accounted for, women in medical school continue to view their role as socially responsible physicians differently from males. These gender differences indicate the need for a better understanding of the ways in which male and female medical students are differentially affected by the socialization process in medical school. A more clearly-delineated explanation of how female medical students develop "socially responsible" attitudes throughout medical school may help medical educators provide more appropriate curricular activities for both men and women that would promote this ethic of social responsibility, thus encouraging more medical students to enter primary care fields and to work with the underserved. As professional educators, the ways in which we define and practice "professionalism" in our respective areas (whether medicine, law or social work) are important to consider. As helping professions, do we indeed believe that part of the educational process ought to promote public service and social responsibility to populations in need of assistance? If so, then we must endeavor to create educational opportunities for professional students that would develop and nurture their interests in being advocates for the unde erved and indigent populations of our society.

Table 1. Descriptives Statistics By Year and Gender.

	Year 1 (n=102)		Year 2 (n=65)	
	Male (n=54)	Female (n=48)	Male (n=41)	Female (n=23)
MSATU Total Score	127.94 (14.05)	135.80 (14.51)	116.85 (15.52)	127.22 (15.58)
Primary Care Interest (1-5)	3.48 (0.91)	4.34 (1.02)	3.62 (1.07)	3.79 (1.06)

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